

**IN THE CLAIMS:**

**Please amend the claims as follows:**

1. (previously presented) A method for determining a position of a mechanically rocked scan within a volume, the method comprising:

(a) determining first and second velocity parameters of a mechanically rocked array at first and second different positions, respectively, the velocity parameter being different at each of the first and second positions; and

(b) setting first and second scan positions as a function of the first and second velocity parameters, respectively;

wherein (a) comprises storing an array velocity parameter profile having the velocity parameters for various scan plane positions throughout the volume scan, the various scan plane positions including the first and second positions.

2. (cancelled)

3. (previously presented) The method of Claim 1 wherein (a) comprises storing the array velocity parameter profile for both the forward and reverse directions of the mechanically rocked array, the forward array velocity parameter profile different than the reverse velocity parameter profile.

4. (previously presented) The method of Claim 3 further comprising:

(c) measuring the array velocity parameter profile prior to use by a customer.

5. (previously presented) The method of Claim 3 further comprising:

(c) predicting the array velocity parameter profile from a programmed motor speed.

6. (original) The method of Claim 1 wherein (a) comprises measuring velocity of the mechanically rocked array during use and wherein (b) comprises setting during the use.

7. (original) The method of Claim 6 wherein (a) comprises:
  - (a1) measuring positions of the array during a scanning operation;
  - (a2) determining an amount of time between positions; and
  - (a3) calculating a velocity of the array at each of the positions.
8. (original) The method of Claim 1 wherein (b) comprises setting a transmit position of at least one scan line.
9. (original) The method of Claim 8 wherein (b) comprises setting the transmit position of a start of a planar scan.
10. (original) The method of Claim 9 wherein (b) comprises setting the transmit position of the start of the planar scan such that a base scan line is at a same position in both forward and reverse direction scans of the array.
11. (cancelled)
12. (currently amended) A method for determining a position of a mechanically rocked scan within a volume, the method comprising:
  - (a) determining first and second velocity [[parameter]]parameters of a mechanically rocked array at first and second different positions, respectively, the velocity parameter being different at each of the first and second positions; and
  - (b) setting first and second scan positions as a function of the first and second velocity parameters, respectively;wherein (b) comprises varying start positions for different scan planes as a function of different velocities including the first and second velocities, scan planes associated with higher velocities starting at elevation positions further away from a center scan line position than scan planes associated with lower velocities.

13. (currently amended) A method for determining a position of a mechanically rocked scan within a volume, the method comprising:

(a) determining first and second velocity [[parameter]]parameters of a mechanically rocked array at first and second different positions, respectively, the velocity parameter being different at each of the first and second positions; and

(b) setting first and second scan positions as a function of the first and second velocity parameters, respectively;

wherein a forward direction velocity of the array is different than a reverse direction velocity for the first position, the first velocity being the forward direction velocity, and

wherein (b) comprises aligning a forward direction scan plane relative to a reverse direction scan plane as a function of the forward and reverse direction velocities.

14. (previously presented) A system for determining a position of a mechanically rocked scan within a volume, the system comprising:

a mechanically rocked array;

a beamformer operable to set first and second scan positions as a function of first and second different velocity parameters, respectively, of the mechanically rocked array; and

a memory connected with the beamformer, the memory operable to store an array velocity profile having velocity parameters including the first and second velocity parameters for various scan plane positions throughout the volume scan.

15. (cancelled)

16. (previously presented) The system of Claim 14 wherein the memory is operable to store the array velocity profile for both forward and reverse directions of the mechanically rocked array, the forward array velocity profile different than the reverse velocity profile, the beamformer operable to set the scan positions including the first and second scan positions differently for the reverse direction than for the forward direction.

17. (previously presented) The system of Claim 14 further comprising:

an encoder connected with the array;  
wherein the beamformer is operable to determine an array velocity parameter in response to inputs from the encoder.

18. (previously presented) The system of Claim 14 wherein the beamformer is operable to set a transmit position of a start of a planar scan as a function of the first velocity parameter.

19. (previously presented) A system for determining a position of a mechanically rocked scan within a volume, the system comprising:

a mechanically rocked array; and

a beamformer operable to set first and second scan positions as a function of first and second different velocity parameters, respectively, of the mechanically rocked array;

wherein the beamformer is operable to vary start positions for different scan planes as a function of different velocities, scan planes associated with higher velocities starting at elevation positions further away from a center scan line position than scan planes associated with lower velocities.

20. (previously presented) A method for determining a position of a scan plane of a mechanically rocked scan within a volume, the method comprising:

(a) determining a velocity parameter for each of a plurality of scan positions, the velocity parameters for at least two of the scan positions being different; and

(b) starting each of a plurality of scans as a function of the respective velocity parameters and scan positions;

wherein (a) comprises determining from a stored velocity profile.

21. (cancelled)

22. (original) The method of Claim 20 wherein (a) comprises determining from a measured position during use.

23. (original) The method of Claim 20 wherein (b) comprises starting planar scans earlier relative to the respective scan position for higher velocities than for lower velocities.

24. (original) The method of Claim 20 wherein (b) comprises aligning a position of at least one scan line of a reverse direction scan with a forward direction scan.

25. (cancelled)

26. (new) The method of Claim 12 wherein (a) comprises using an array velocity parameter profile having the velocity parameters, including the first and second velocity parameters, for various scan plane positions through the volume scan, the various scan plane positions including the first and second positions, wherein the array velocity parameter profile is predicted from a programmed motor speed.

27. (new) The method of Claim 12 wherein (a) comprises using an array velocity parameter profile having the velocity parameters, including the first and second velocity parameters, for various scan plane positions through the volume scan, the various scan plane positions including the first and second positions, wherein the array velocity parameter profile is measured.

28. (new) The method of Claim 13 wherein (a) comprises using an array velocity parameter profile having the velocity parameters, including the first and second velocity parameters, for various scan plane positions through the volume scan, the various scan plane positions including the first and second positions, wherein the array velocity parameter profile is predicted from a programmed motor speed.

29. (new) The method of Claim 13 wherein (a) comprises using an array velocity parameter profile having the velocity parameters, including the first and second velocity parameters, for various scan plane positions through the volume scan, the various scan plane positions including the first and second positions, wherein the array velocity parameter

profile is measured.

30. (new) The system of Claim 14 wherein said array velocity parameter profile is predicted from a programmed motor speed.
31. (new) The system of Claim 16 wherein said array velocity parameter profile is predicted from a programmed motor speed.
32. (new) The system of Claim 19 wherein said first and second velocity parameters are from an array velocity parameter profile predicted from a programmed motor speed.
33. (new) The system of Claim 20 wherein said stored velocity profile is predicted from a programmed motor speed.